REMARKS

Claims 1-26 are pending in the application.

Claims 1-26 stand rejected.

Claims 23 and 24 stand objected to.

Claims 4, 6-9 and 11-26 have been amended.

Claim Objections

Claims 23 and 24 are objected to because the Examiner states they are dependent from claim 13, unlike analogous claims 11 and 12, which depend from Claim 2, not Claim 1. Applicants have reviewed the analogous claims and have amended the dependencies of Claims 4, 6-9, 11, 12 and 16-21. In light of these amendments, Applicants respectfully submit that Claims 23 and 24 now reflect a similar dependency as their analogous claims and the objection raised in the Office Action is moot.

Rejection of Claims Under 35 U.S.C. §112

Claims 14-24 and 26 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Office Action further states that there is insufficient antecedent basis for certain terms in the preambles of these claims. Applicants have amended independent Claim 13, dependent Claims 14-24, independent Claim 25, and dependent Claim 26 to address the antecedent basis issues raised by the Office Action. Applicants respectfully

submit that these amendments correct the 35 U.S.C. §112 basis for rejections and that these claims are therefore in condition for allowance.

Rejection of Claims under 35 U.S.C. §102

Claims 1-26 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 6,405,284 issued to Bridge ("Bridge"). Applicants respectfully traverse this rejection.

Independent Claims 1, 13 and 25 each involve responding to a request to perform a set of operations "on a plurality of logical volumes." For example, Claim 1 provides the following limitations performed "in response to a request to perform a set of operations on a plurality of logical volumes:"

- identifying a first storage region ... to allocate for a first operation ... <u>on a first logical volume</u> of the plurality of logical volumes; and
- determining whether a second operation ... can be performed <u>on a second logical volume</u> of the plurality of logical volumes using a subset of the plurality of storage regions, wherein the subset excludes the first storage region.

See, e.g., Claim 1 (emphasis added). These limitations of the independent claims require both a first and a second logical volume. Applicants respectfully submit that Bridge does not provide disclosure of operations involving both a first and a second logical volume. Instead, Bridge discloses <u>only</u> operations involving <u>one</u> logical volume.

The Office Action cites to a section of Bridge purportedly disclosing allocating a parity extent set for redundancy protection in a logical volume. *See* Bridge 19:24-61. In this cited section, Bridge first discloses finding "a disk drive for the primary extent of the parity extent set and allocat[ing] parity extent on selected disk drive." Bridge 19:40-42. Thus, Bridge finds <u>one</u> disk drive, which is then used to provide the primary extent <u>and</u> the parity extent. Bridge then discloses "allocat[ing] data extents on full mirror partners of the disk

drive containing the parity extent.... The selected full mirror partners should have available free space to allocate the data extents. If sufficient fill [sic] mirror partners cannot be found, then deallocate the primary extent and go back to 1102 to select a different disk drive for the primary parity extent." Bridge 19:45-54. Thus, if the disk drive found cannot support both the primary and parity extents, Bridge must find another disk drive in hopes of finding a disk drive capable of supporting both extents. Given the disclosed definitions provided by Bridge for terminology in the cited section (e.g., "mirror partner" and "parity extent"), it is clear that Bridge only discloses data stored in one logical volume, and not first and second logical volumes, as claimed. Because Bridge's disclosure mandates that both extents be supported on a single drive, Bridge is oblivious to the use of two (or more) logical volumes.
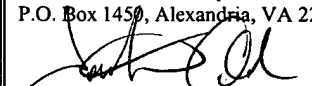
Bridge Fig. 5 illustrates "extent mirroring [that] can be used to maintain two copies of each extent for a logical volume." Bridge 12:20-21. Bridge further describes Figure 5 as showing "logical volume 502 includ[ing] extent sets 504 and 506." Bridge 12:32-33. Bridge further explains the benefit of the illustrated extent mirroring as "more flexible than mirroring entire disk drives since it allows the redundancy to be specified on a per logical volume basis." Bridge 12:47-49. Bridge also mentions that extent mirroring can be performed at granularities smaller than a logical volume, but Applicants submit that Bridge does not provide mirroring of one logical volume onto another logical volume as implied by the Office Action's citation of Bridge 19:24-61 for the proposition of disclosing both the "identifying" and "determining" limitations of the independent claims. *See* Bridge 12:55-56. Bridge further discloses that parity extents are allocated either on a per logical volume level or a sub-logical volume level. *See* Bridge 13:9-22. Applicants respectfully submit that Bridge does

not disclose the use of parity extents on a logical volume-to-logical volume level as suggested by the Office Action's cited text.
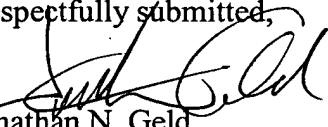
Since Bridge discloses a logical volume including not only a primary disk drive but also the mirror partners of that disk drive, Bridge is therefore incapable of anticipating the independent claims of the present Application, which require at least first and second logical volumes. For at least these reasons, Applicants respectfully submit that Bridge does not provide anticipatory disclosure of independent Claims 1, 13 and 25, and all claims depending therefrom, and that those claims are in condition for allowance. Applicants therefore request the Examiner' reconsideration and withdrawal of the rejections as those claims and indication of allowability of those claims and an indication of allowability of same.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5090.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on June 22, 2006.

_____   6/22/2006
Attorney for Applicant(s)   Date of Signature

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